Notice of Allowability	Application No.	Applicant(s)	
	10/804,649	JOHNSON, JAMES BARTON	
	Examiner	Art Unit	
	Maria Veronica D. Ewald	1722	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *8/17/06*.

2. ☒ The allowed claim(s) is/are *1 and 3-13*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☒ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Atty. Douglas Sprinkle on October 10, 2006.

The application has been amended as follows. Claim 1 is to be amended as follows:

A tube bending fixture comprising: a frame, a lower tube support pivotally mounted to said frame between a first and a second position about a first axis, an upper tube support pivotally mounted to said frame between a first and a second position about a second axis, a bar slidably mounted to said upper tube support and movable between an extended and a retracted position, a plurality of lower mandrels mounted to said lower tube support, each lower mandrel dimensioned to fit within one end of a tube to be bent, a plurality of upper mandrels mounted to said bar, one of said upper and one of said lower mandrels being aligned with each other when said upper and lower tube supports are in said first pivotal position, each said upper mandrel dimensioned to fit within a second end of the tube to be bent when said bar is in said extended position, each said upper mandrel being spaced from the second end of the tube to be bent when said bar is in said retracted position, a lock mechanism which selectively retains said upper and lower tube supports in said second pivotal position, a first gear secured

to said lower tube support coaxial with said first axis and a second gear secured to said upper tube support coaxial with said second axis, wherein said first and second gear are in mesh with each other so that said upper tube support and said ~~cover~~ lower tube support pivot in unison with each other relative to said frame.

Allowable Subject Matter

Claims 1 and 3 – 13 are allowed. The following is an examiner's statement of reasons for allowance: The closest prior art references of Heatherly (U.S. 5,290,166) and Moran (U.S. 5,066,212) fail to teach a tube bending apparatus, wherein there is a frame on which lower and upper tube supports are mounted with a plurality of upper and lower mandrels dimensioned to fit within ends of a tube to be bent. With respect to the reference of Heatherly, Heatherly fails to teach that there is a first gear secured to said lower tube support and a second gear secured to said upper tube support which are in mesh with each other so that said upper and lower tube supports pivot in unison with each other relative to said frame. Heatherly teaches a pipe bender with a lower tube support and upper tube support; however, *the supports are not fixed to a frame nor does the apparatus have a plurality of mandrels (upper and lower). The apparatus of Heatherly is only capable of bending one tube at a time and consists of only one upper and one lower mandrel mounted to the upper tube support and lower tube support, respectively. Furthermore, the upper and lower supports bend respectively around a pivot; however, the pivot is neither a gear nor a toothed wheel and the pivot is not comprised of a first and second gear.*

With respect to the reference of Moran, Moran teaches a pipe-bending apparatus that is capable of bending a plurality of pipes at one time using pipe formers. Tubes to be bent are placed on pipe forms and bent around an arcuate die via wiper blades, which engage the top of the tubes and push the tubes towards the die; *however, the wiper blades and arcuate dies are not pivotally mounted to a frame. Furthermore, the apparatus of Moran is not comprised of a bar slidably mounted to an upper tube support (or the wiper blades) and movable between an extended and retracted position and the wiper blades and arcuate die do not pivot in unison with each other relative to the frame.*

Thus, prior art fails to teach a tube bending fixture comprising: a frame, a lower tube support pivotally mounted to said frame between a first and a second position about a first axis, an upper tube support pivotally mounted to said frame between a first and a second position about a second axis, a bar slidably mounted to said upper tube support and movable between an extended and a retracted position, a plurality of lower mandrels mounted to said lower tube support, each lower mandrel dimensioned to fit within one end of a tube to be bent, a plurality of upper mandrels mounted to said bar, one of said upper and one of said lower mandrels being aligned with each other when said upper and lower tube supports are in said first pivotal position, each said upper mandrel dimensioned to fit within a second end of the tube to be bent when said bar is in said extended position, each said upper mandrel being spaced from the second end of the tube to be bent when said bar is in said retracted position, a lock mechanism which selectively retains said upper and lower tube supports in said second pivotal position, a first gear secured to said lower tube support coaxial with said first axis and a

second gear secured to said upper tube support coaxial with said second axis, wherein said first and second gear are in mesh with each other so that said upper tube support and said lower tube support pivot in unison with each other relative to said frame.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maria Veronica D. Ewald whose telephone number is 571-272-8519. The examiner can normally be reached on M-F, 8 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Yogendra Gupta can be reached on 571-272-1316. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MVE

Joseph S. Del Sole
JOSEPH S. DEL SOLE
PRIMARY EXAMINER
10/12/06